

REMARKS

Prior to entry of this amendment, claims 1-38 were pending in the subject application.

Claims 1 and 18 are independent.

By this amendment, claims 19, 21 and 22 are amended to recite “metal plating” instead of “plating” to provide antecedent basis for “the metal” recited in each of those claims. No new matter is added. Reconsideration and allowance of objected to claims 19, 21, 22 and 34-38, in addition to allowed claims 1-18, 20 and 23-33, are respectfully submitted.

A. Introduction

In the outstanding *Ex parte Quayle* Action, the Examiner objected to the drawings under 37 C.F.R. 1.83(a) because the drawings must show every feature of the invention specified in the claims, therefore all of the various winding patterns claimed in claims 4-17 and 23-38 must be shown or the feature(s) cancelled from the claims; objected to the drawings because it is not clear from Figure 1 that the excitation coil is wound in a figure-eight pattern; objected to claims 19, 21, 22 and 34-38 because of language informalities; allowed claims 1-18, 20 and 23-33; and allowed claims 19, 21, 22 and 34-38 upon overcoming the claims objections.

B. Objection to the Drawings

In the outstanding *Ex parte Quayle* Action, the Examiner objected to the drawings under 37 C.F.R. 1.83(a) because the drawings must show every feature of the invention specified in the claims, therefore all of the various winding patterns claimed in claims 4-17 and 23-38 must be shown or the feature(s) cancelled from the claims.

Applicants respectfully submit that no drawing amendments are required as the various windings are illustrated in the originally filed figures. In particular, applicants submit:

- a) with regard to claims 4 and 25, FIG. 4D illustrates an exemplary embodiment including an excitation coil 3 winding a rectangular ring type soft magnetic core 5 in substantially in a figure-eight pattern;
- b) with regard to claims 12 and 33, FIG. 4A illustrates an exemplary embodiment including an excitation coil 3 winding two bar-type soft magnetic cores 1, 2 in substantially in a figure-eight pattern;
- c) with regard to claims 5, 8, 26 and 29, FIG. 6B illustrates an exemplary embodiment including a pick up coil 4' together winding two parallel bars 1, 2 in a solenoid pattern;
- d) with regard to claims 13, 16, 34 and 37, FIG. 6D illustrates an exemplary embodiment including a pick up coil 7' together winding longer opposite sides of the rectangular ring type soft magnetic core 5 in a solenoid pattern;
- e) with regard to claims 6, 9, 27 and 30, FIG. 4B illustrates an exemplary embodiment including a pick up coil 4 individually winding two parallel bars 1, 2;
- f) with regard to claims 14, 17, 35 and 38, FIG. 4D illustrates an exemplary embodiment including a pick up coil 7 individually winding longer opposite sides of the rectangular ring type soft magnetic core 5;
- g) with regard to claims 7 and 28, FIG. 6A illustrates an exemplary embodiment including an excitation coil 3' individually winding two parallel bars 1, 2;
- h) with regard to claims 15 and 36, FIG. 6D illustrates an exemplary embodiment including an excitation coil 6' individually winding longer opposite sides of the rectangular ring type soft magnetic core 5;

- i) with regard to claims 10, 11, 31 and 32, FIGS. 4D and 6D illustrate exemplary embodiments including rectangular ring type soft magnetic cores 5; and
- j) with regard to claims 23 and 24, FIGS. 4A-4C and 6A-6C illustrate exemplary embodiments including two parallel bars disposed in a same plane.

Further, applicants respectfully submit that persons of ordinary skill in the art would appreciate the various exemplary embodiments recited in the claims based on the current figures included in the application. Thus, applicants submit that no drawings amendments are required. It is respectfully submitted that the objection be withdrawn.

C. Objection to Figure 1

In the outstanding *Ex parte Quayle* Action, the Examiner objected to the drawings because it is not clear from Figure 1 that the excitation coil is wound in a figure-eight pattern. Applicants respectfully request that the Examiner compare the exemplary embodiments of the excitation coils 3, 3' illustrated in FIGS. 1 and 5. As described in paragraphs [0031] – [0032] of the originally filed specification, in the exemplary embodiment illustrated in FIG. 1, the first and second bar-type soft magnetic cores 1, 2 are wound by an excitation coil 3 substantially in a figure-eight pattern, whereas, as described in paragraph [0050], in the exemplary embodiment illustrated in FIG. 5, the excitation coil 3' individually winds the first and second bar-type soft magnetic cores 1, 2. In particular, it is noted that in FIG. 1, portions of the excitation coil 3 are shown to cross over between the first and second bar-type soft magnetic cores 1, 2, thereby resulting in the appearance of a “line” between the first and second bar-type soft magnetic cores 1, 2. Applicants note that the “line” is not illustrated in FIG. 5, as the excitation coil 3' individually winds the soft magnetic cores 1, 2. Thus, it is respectfully submitted that no

drawing revisions and/or specification revisions are required. It is respectfully submitted that the objection be withdrawn.

D. Objection to Claims 19, 21, 22 and 34-38

In the outstanding *Ex parte Quayle Action*, the Examiner objected to claims 19, 21, 22 and 34-38 because of language informalities. In particular, with regard to claims 19, 21 and 22, page 4 of the Office action states that “the metal” lacks antecedent basis in each of claims 19, 21 and 22, and with regard to claims 34-38, page 4 of the Office action states that it is not clear from the phrase “two opposite sides,” which opposite sides are being referred to.

With regard to claims 19, 21 and 22, applicants respectfully submit that persons of ordinary skill in the art would appreciate that “plating the upper surface ... having the seed layer deposited thereon,” as previously recited provides antecedent basis for the phrase “the metal filling” in each of claims 19, 21 and 22. However, as set forth in the above listing of claims, applicants amended claims 19, 21 and 22 to explicitly recite “metal plating” instead of “plating” in response to the objection to claims 19, 21 and 22.

Applicants submit that the phrase “two opposite sides” in claims 33-38 is clear and unambiguous, and no amendments are necessary. More particularly, applicants submit that persons of ordinary skill in the art would fully appreciate that two opposite sides correspond to two portions of the rectangular ring extended substantially or completely parallel to each other, as shown, e.g., in originally filed FIG. 4D. Thus, applicants submit that no drawing amendments are necessary, as current claims 33-38 are clear and unambiguous.

It is respectfully requested that the objection be withdrawn.

E. Allowed Claims

Applicants appreciate the Examiner's allowance of claims 1-18, 20 and 23-33 and appreciate the indication of allowability of claims 19, 21, 22 and 34-38. For at least the reasons discussed herein, applicants submit that the application is in condition for allowance.

F. Conclusion

If the Examiner believes that additional discussions or information might advance the prosecution of the instant application, the Examiner is invited to contact the undersigned at the telephone number listed below to expedite resolution of any outstanding issues.

In view of the foregoing amendments and remarks, reconsideration of this application is earnestly solicited, and an early and favorable further action upon all the claims is hereby requested.

Respectfully submitted,

LEE & MORSE, P.C.

Date: November 22, 2006


Eugene M. Lee, Reg. No. 32,039

LEE & MORSE, P.C.
3141 FAIRVIEW PARK DRIVE, SUITE 500
FALLS CHURCH, VA 22042
703.207.0008 TEL
703.207.0003 FAX

PETITION and
DEPOSIT ACCOUNT CHARGE AUTHORIZATION

This document and any concurrently filed papers are believed to be timely. Should any extension of the term be required, applicant hereby petitions the Director for such extension and requests that any applicable petition fee be charged to Deposit Account No. 50-1645.

If fee payment is enclosed, this amount is believed to be correct. However, the Director is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-1645.

Any additional fee(s) necessary to effect the proper and timely filing of the accompanying-papers may also be charged to Deposit Account No. 50-1645.